What is claimed is:

1. Process for determining the position of an influencing element, with an inductive position sensor having a plurality of coils which are arranged linearly or circularly in succession, a capacitor or a defined tuned circuit, an amplifier element, at least one changeover switch and an evaluation unit, a coil and the capacitor or the defined tuned circuit forming a tuned circuit and the tuned circuit and the amplifier element forming an oscillator, with the following steps:

- connecting the individual coils in time succession to the capacitor or to the defined tuned circuit with the changeover switch,
- measuring the impedance of the coil connected by the changeover switch and of the tuned circuit with the evaluation unit as a function of the position of the influencing element relative to the coil,

the aforementioned steps being repeated until all coils have been connected in succession by the changeover switch to the capacitor or to the defined tuned circuit and the impedance of all coils has been measured once by the evaluation unit, and determining which coil or tuned circuit is able to determine the position of the influencing element;

wherein, in further operation:

first measuring the impedance of only the coil or of the tuned circuit which has been determined beforehand as that coil or tuned circuit with which the position of the influencing element can be determined and

only then is the impedance of at least one other coil or one other tuned circuit measured if the measured value of the impedance of the determined coil or tuned circuit has changed beyond a threshold amount.

2. Process as claimed in claim 1, wherein, when the measured value of the impedance of the current coil or tuned circuit has changed beyond said threshold amount, measuring the impedance of the coil or the tuned circuit.

3. Process as claimed in claim 1, wherein, when the measured value of the impedance of the current coil or the tuned circuit has changed beyond said threshold amount, measuring the impedance of the current coil and of the spatially adjacent coil.

4. Process as claimed in claim 3, wherein the determined coil and the spatially adjacent coil are measured in alternation.

5. Process as claimed in claim 3, wherein, in the determination of the position of the influencing element, the measured values of the determined coil and the spatially adjacent coil are weighted.

6. Process as claimed in claim 1, wherein the individual coils are addressable.

7. Process as claimed in claim 1, wherein, in a calibration step, the influencing element is moved over the maximally measurable length of the inductive displacement sensor and the resulting values of the individual coils or tuned circuits are stored as correction or reference values.

8. Process as claimed in claim 1, wherein following the measurement of the determined coil and the spatially adjacent coil, a third coil is measured, the third coil not being adjacent to the determined coil.

9. Process as claimed in claim 1, wherein the evaluation unit measures the change of the frequency of each coil or of each tuned circuit as a function of the position of the influencing element relative to the respective coil or tuned circuit.

10. Process as claimed in claim 9, wherein the inductive position sensor has a counter which is connected to the oscillator and to the evaluation unit, wherein the counter counts in succession the number of oscillations of the oscillator formed with the coil selected by the changeover switch, and wherein the evaluation unit measures the time which passes until the counter has reached a preset value.

11. Process as claimed in claim 9, the inductive position sensor has a counter which is connected to the oscillator and to the evaluation unit, wherein the counter, during a given time, counts the number of oscillations of the oscillator formed with the coil selected by the

changeover switch, and the evaluation unit evaluates this number.

12. Process as claimed in claim 9, wherein the evaluation unit, during a given time, counts the number of oscillations of the oscillator formed with the coil selected by the changeover switch, evaluates this number and if the number of oscillations is below a threshold value, triggers the changeover switch to select the next of said coils.

13. Process as claimed in claim 12, wherein the evaluation unit is formed by a microprocessor, and wherein a prescaler is connected upstream of the microprocessor.